

Work Order ID 112572

\*112572\*

Page 1

February-13-14 1:17:44 PM

Item ID: D4151-1 Accept \*N900040100\* Setup Start \*NS1\*

Revision ID:

Item Name: Lower Hardpoint Plate Stop \*NS2\*

Start Date: 30/01/2014 Start Qty: 40.00 \*40\*

Required Date: 30/01/2014 Req'd Qty: 40.00 \*40\*

Cust Item ID:

Customer:

Reference:

Approvals: Process Plan: HA Date: 14-02-13 Tooling: Date:

QC: Date: SPC (Y/N): Date:

Run Start \*NR1\*

Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D4151	C								

100

\*100\*

Waterjet

FLOW CNC Waterjet

Memo

Cut as per dwg D4151

Prog Rev: \_\_\_\_\_

Dwg Rev: \_\_\_\_\_

ISSUE PO P023011

POSSIBLE SUPPLIER: LOEBSACK WATERJET

SCRAP

4m 2/18/14

105

\*105\*

Packaging

Packaging

Receive & Inspect for Damage & Mat'l Certs 0.00

Memo 0.00

P46/05 (40)

PTC

DQA: Aut Date: 14/06/24



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Aut Date: 14/6/16

Work Order update only ☐

Work Order: <u>112 572</u>  Part No. <u>D4151-1</u>  NCR No. <u>14-3872</u>	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input checked="" type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width:100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input checked="" type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input checked="" type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input checked="" type="checkbox"/>																

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design		14/5/16	10	40	part scrap hole one over size by 0.252 / 0.258 ± 0.003 critical dimension  R e supplier/ NCR 14-3872.	DAS 16 9-89	scrap and Destroyed	DAS 27 9-89 14/5/16	DAS 27 9-89 14/5/22	DAS 16 9-89  Q52042 14/05/16
Doc/Data										
Equip/Tooling										
Handling/Pre										
Material										
Operator										
Offset/Setup										
Process										
Supplier	X									
Training										
Transport										
Unapproved										

### FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input checked="" type="checkbox"/> Other <u>Supplier</u>
--	--	---	--

# Supplier Non-Conformance Report

<b>Reviewed</b>			
<b>DQA:</b>		Printed on: Friday, May 16, 2014	
<b>Date:</b>			
<b>Details</b>			
<b>Raised Date</b> 5/16/2014	<b>Status</b> Open	<b>Owner</b> Gregoire, Michael	<b>Number</b> NCR14-3872
<b>Target Date</b> 5/23/2014	<b>Standard</b>	<b>Severity</b> MAJOR	
<b>Process</b> Quality Inspection		<b>Audit</b>	
<b>Raised By Person</b> Downing, Eric M	<b>Raised Against (Department or Supplier)</b> Loebsack Waterjet Canada Ltd.	<b>Fault Category</b> Supplier	
<b>Details</b> PO 23011 form Loebsack waterjet that D4148-1 B112245, D4151-1 B112572, D4151-3 B110308, D4149-1 B112484 are all scrap due to 0.252 +.003 / -.000 measuring 0.250" - 0.260"			
<b>Keywords</b>		<b>Product</b>	
<b>Document</b>		<b>Root Cause</b> Supplier	
<b>Closed By</b>	<b>Closed Date</b>	<b>Resolution</b>	

<b>Corrective Action</b>			
<b>Target Date</b> 5/23/2014	<b>Owner</b> Lavoie, Chantal	<b>Closed Date</b>	<b>Closed By</b>
<b>Details</b>			

<b>Actions</b>			
<b>Number</b>	<b>Owner</b>	<b>Target Date</b>	<b>Completed Date</b>
<b>Details</b>		<b>Response</b>	
1	Gregoire, Michael	5/23/2014	
Contact Supplier and obtain corrective action			
2	Downing, Eric M	5/23/2014	
Scrap D4149-1 B112484 qty x60pcs			
3	Downing, Eric M	5/23/2014	
scrap D4151-3 B110308 qty x40pcs			

4	Downing, Eric M	5/23/2014	
scrap D4151-1 B112572 qty x40pcs			
5	Downing, Eric M	5/23/2014	
Scrap D4148-1 B112245 qty x 40pcs			

### Verification & Review

Target Date 5/23/2014	Owner Hammond, Kelsey	Closed Date	Closed By
Details All Actions Complete			

### Actions

Number	Owner	Target Date	Completed Date
Details		Response	

Page 2

## Packaging

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

## WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

### FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge	<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
--	--	---	--	--

Work Order ID 112572

\*112572\*

Page 3

February-13-14 1:17:44 PM

Item ID: D4151-1 Accept \*N900040100\* Setup Start \*NS1\*  
 Revision ID: Stop \*NS2\*  
 Item Name: Lower Hardpoint Plate  
 Start Date: 30/01/2014 Start Qty: 40.00 \*40\* Cust Item ID:  
 Required Date: 30/01/2014 Req'd Qty: 40.00 \*40\* Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start \*NR1\*  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	QC21- Final Inspection - Work Order Release	0.00							
*160*									
QC	Memo	0.00							
Quality Control									

mt  
14-5-22

Ø

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

## WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

### FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence
<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge		
<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other		



# Picklist Print

Page 1

February-13-14 1:17:51 PM

Work Order ID: 112572

**\*112572\***

Parent Item: D4151-1

**\*D4151-1\***

Parent Item Name: Lower Hardpoint Plate

Start Date: 30/01/2014

Required Date: 30/01/2014

Start Qty: 40.00

Required Qty: 40.00

Comments: IPP Rev:A 10.06.24 new issue DD verf:EC  
11.01.21 as per dwg revC DD verf:JLM

IPP Rev:B

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D4151-1P		Purchased		No			Each	0.0000		40			
<b>*D4151-1P*</b>									<b>**</b>				
Lower Hardpoint Plate													

*Py 10/19 60*

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

## WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

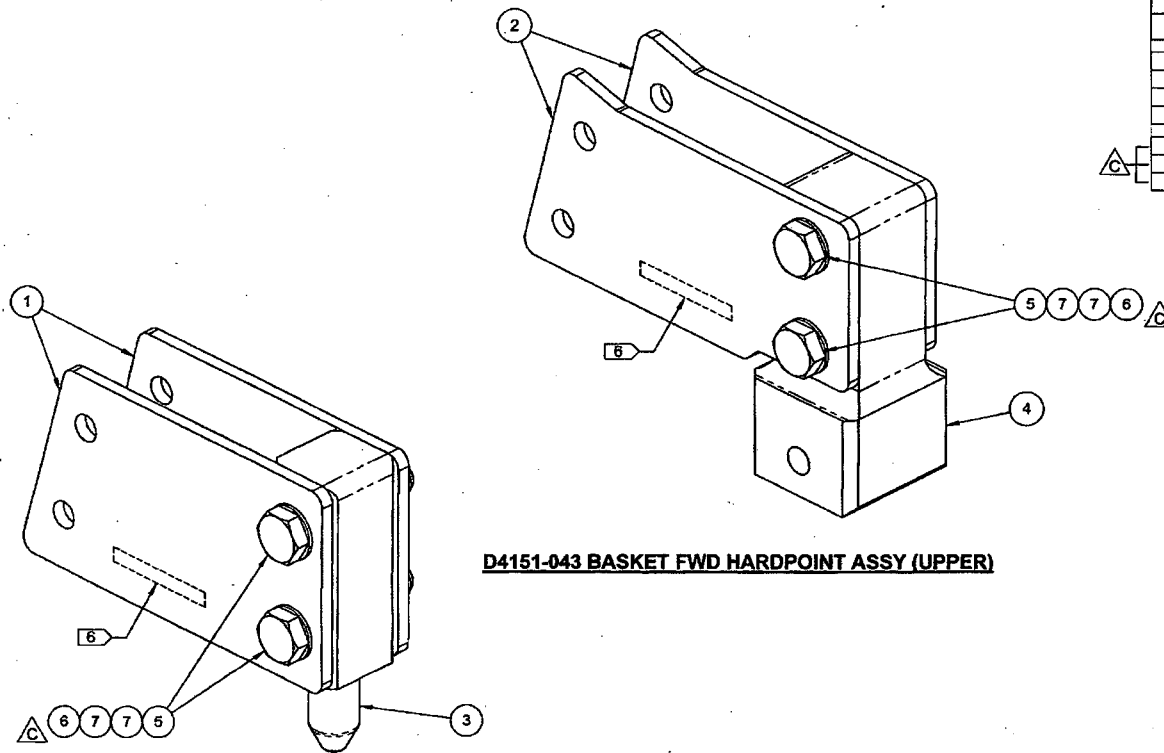
Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width:100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

### FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence  <input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
--	--	---





**D4151-043 BASKET FWD HARDPOINT ASSY (UPPER)**

**D4151-041 BASKET FWD HARDPOINT ASSY (LOWER)**

**NOTES:**

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4151-04X" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT:
  - D4151-041 = 0.88 lbs
  - D4151-043 = 1.17 lbs

ITEM	QTY -041	QTY -043	P/N	DESCRIPTION
	X		D4151-041	BASKET FWD HARDPOINT ASSY (LOWER)
		X	D4151-043	BASKET FWD HARDPOINT ASSY (UPPER)
1	2		D4151-1	LOWER HARDPOINT PLATE
2		2	D4151-3	UPPER HARDPOINT PLATE
3	1		D4151-5	FWD BASKET INSTL STUD (LOWER)
4		1	D4151-7	FWD EYEBOLT RECEIVER (UPPER)
5	2	2	AN4C13A	BOLT
6	2	2	MS21043-4	NUT
7	4	4	NAS1149C0432R	WASHER

112572 MLS  
14-02-03

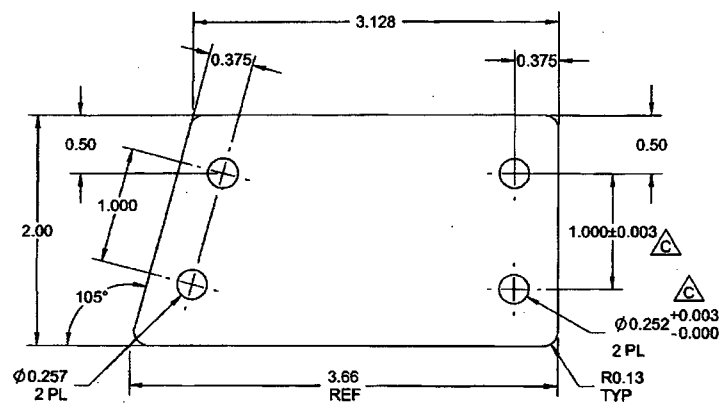
RELEASED  
2011-01-18

C	AN4 HARDWARE WAS AN3 (B8-1, C3-1 & D3-1); Ø0.252 WAS Ø0.191 (C3-2, D1-2); TIGHTENED TOL ON 1,000 DIM (C3-2, D1-2, C7-3, C3-3); Ø0.250 WAS Ø0.191 (C3-3, B4-3); 1.83 WAS 1.75 (C1-2), 2.84 WAS 2.78 (B3-3) AND 1.88 WAS 1.80 (C1-3) TO PRESERVE 1.5ED. REASON: SEE D407-787 DESIGN JOURNAL.	MB	10.12.14
B	ADDED D4151-5/7 (SHT 3); D4151-5 WAS D3811-1 (ZN B6-1 & D3-1); D4151-7 WAS D3811-3 (ZN C4-1 & D3-1) ITEMS #5, 6 & 7 REPLACE MS20815-4M20 (ZN C3-1, D3-1 & B8-1); Ø0.191 2 PL REPLACES Ø0.129 3 PL (ZN C5-2); Ø0.191 2 PL REPLACES Ø0.129 4 PL (ZN D1-2). REASON: SEE TR-D350-607-2 REV. 2.	MB	10.07.05
A	NEW ISSUE	MB	10.06.22
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED	SC		
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	10.12.14		

**DART AEROSPACE LTD**  
HAWKESBURY, ONTARIO, CANADA

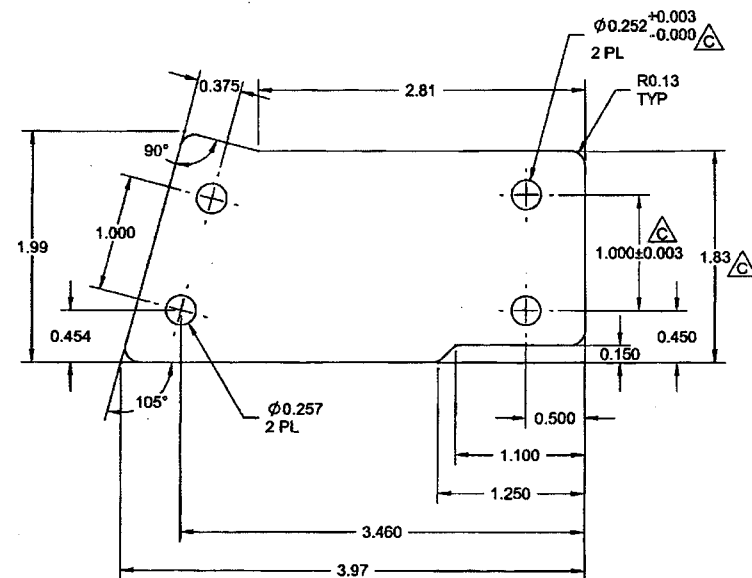
DRAWING NO. REV. C  
**D4151**  
SHEET 1 OF 3  
TITLE SCALE  
**BASKET FWD HARDPOINT** NTS

COPYRIGHT © 2010 BY DART AEROSPACE LTD  
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.



0.125  
REF

**D4151-1 LOWER HARDPOINT PLATE**



0.125  
REF

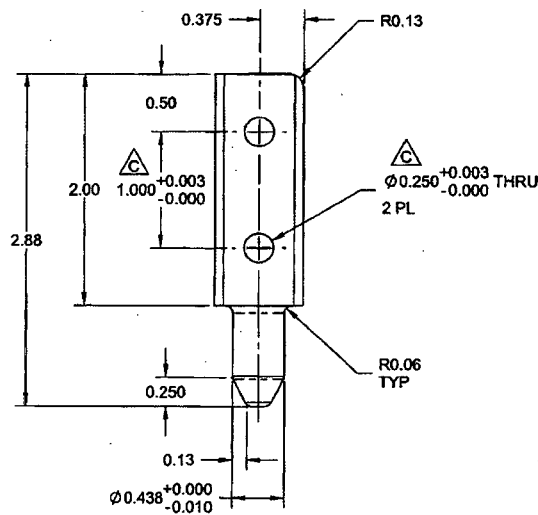
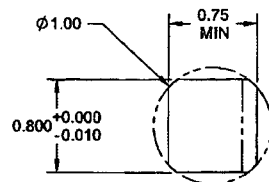
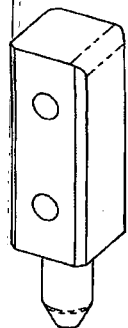
**D4151-3 UPPER HARDPOINT PLATE**

**NOTES:**

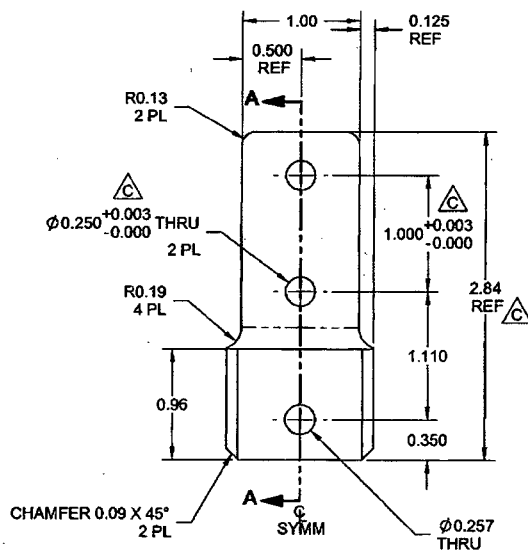
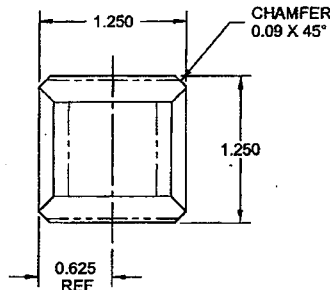
- 1) MATERIAL: 303/304/316 STAINLESS STEEL SHEET ANNEALED 2B, 0.125 THK  
PER MIL-S-5059 OR AMS 5513/5524 OR ASTM A240 OR ASME SA240  
REF. DART SPEC. M304S11GA OR M303S11GA
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY AT ASSEMBLY
- 7) WEIGHT:  
- D4151-1 = 0.24 lbs  
- D4151-3 = 0.23 lbs

**RELEASED**  
2011-01-18  
JMD

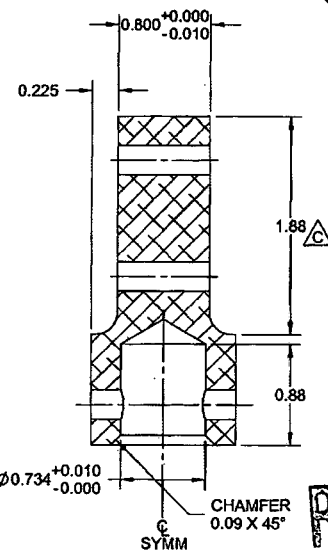
DESIGN		<b>DART AEROSPACE LTD</b>
DRAWN		HAWKESBURY, ONTARIO, CANADA
CHECKED		DRAWING NO. <b>D4151</b> REV. C
MFG. APPR.		SHEET 2 OF 3
APPROVED		TITLE <b>BASKET FWD HARDPOINT</b> SCALE NTS
DE APPR.		COPYRIGHT © 2010 BY DART AEROSPACE LTD
DATE	10.12.14	THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY MANNER WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.



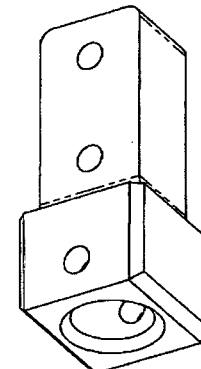
**D4151-5 FWD BASKET INSTL STUD (LOWER)**



**D4151-7 FWD EYEBOLT RECEIVER (UPPER)**



**SECTION A-A**



- NOTES:**
- 1) MATERIAL -5: 303/304/316 STAINLESS STEEL ROUND BAR, PER ASTM A276 OR ASTM A582  
PER DART SPEC M303R OR M304R
  - 7: 303/304/316 STAINLESS STEEL BAR, PER ASTM A276 OR ASTM A582  
PER DART SPEC M303B OR M304B
  - 2) FINISH: NONE
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
  - 6) IDENTIFICATION: IDENTIFY AT ASSEMBLY
  - 7) WEIGHT -5: 0.36 lbs  
-7: 0.70 lbs

DESIGN		<b>DART AEROSPACE LTD</b>	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO. <b>D4151</b>	REV. C
MFG. APPR.		TITLE	SHEET 3 OF 3
APPROVED		<b>BASKET FWD HARDPOINT</b>	SCALE
DE APPR.			NTS
DATE	10.12.14	COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL. IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY MANNER WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

**RELEASED**  
2011-01-01  
**RELEASED**



Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

## PURCHASE ORDER

Purchase Order ID **PO23011**

Purchase Order Date 2/14/2014

PO Print Date 2/14/2014

Page Number 4 of 9

**Order From :**

VC-LWC001

**Ship To :** DART AEROSPACE LTD

LOEBSACK WATERJET CANADA LTD.  
55 NORTHFIELD DR. E.  
P.O.BOX 339

1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

WATERLOO, ONTARIO N2K 3T6

Contact Name

Vendor Phone

Ship To Contact

Ship To Phone

Ship Via:

FedEx PI collect

Ship Acct:

Buyer

Michael Gregoire

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

CAD

FOB

FCA - (Free Carrier)

Line Total: \$479.00

11 D3405-1F

GHW/ Bracket

3/28/2014

40.00

\$10.40

\$416.00

Yes

3/28/2014

Manufacture as per drawing D3405 rev.b  
B110741

Line Total: \$416.00

12 D4150-3P

Arm Plate

3/28/2014

40.00

\$4.80

\$192.00

Yes

3/28/2014

Manufacture as per drawing D4150 rev.b  
B111062

Line Total: \$192.00

13 D4151-1P

Lower Hardpoint Plate

3/28/2014

40.00

\$5.45

\$218.00

Yes

3/28/2014

Manufacture as per drawing D4151 rev.c  
B112572

**PO Instructions:** PROCUREMENT QUALITY CLAUSES

A005 RIGHT OF ENTRY

A008 FIRST ARTICLE INSPECTION (FAI) BY SELLER, (DOCUMENTATION SENT TO DART AEROSPACE)

A012 CHEMICAL AND PHYSICAL TEST REPORTS

A016 PERSONNEL QUALIFICATION

A017 RAW MATERIAL IDENTIFICATION (AS APPLICABLE)

A026 CERTIFICATION OF MATERIAL CONFORMANCE

A042 DART NOTIFICATION BY SUPPLIER

Note:



55 Northfield Dr., E., Box 339  
Waterloo, On. N2K 3T6  
(519)570-6590  
F. (519)893-4252

## Certificate of Compliance

Sold To: DART Aerospace

Purchase Order Nu ID PO23011

Item	Quantity	Part Number	Revision	Description	Mtl. / Thk.	HT Number
6(19)	12	D2803-1	b	BRACKET	6061-T6 / 0.50"	11/12/168D0
23(20)	12	D2803-2	b	BRACKET	6061-T6 / 0.50"	11/12/168D0
5(18)	12	D2804-1	c	BRACKET	6061-T6 / 0.50"	11/12/168D0
4(17)	12	D2804-2	c	BRACKET	6061-T6 / 0.50"	11/12/168D0
10(9)	10	D4093-3	d	BRACKET	6061-T6 / 0.750"	22/11/036D6
20(6)	30	D3065-5	b	STEP LEG	5052-H32 / 0.080"	3C529#2
24(24)	24	D2561P	b	LUG	6061T6 / 0.25"	08/11/010D6
3(18)	150	D2838	c	CLAMP	304 SS / 0.063"	A1303988
17(16)	60	D2519	d	CLAMP	304 SS / 0.063"	A1303988
2(17)	40	D3414-1F	c	CLAMP	304 SS / 0.100"	500400
15(14)	60	D4149-1	c	CROSSTUBE LUG	304 SS / 0.120"	350420
12(11)	40	D4150-3	b	ARM PLATE	304 SS / 0.120"	350420
13(12)	40	D4151-1	c	L HARDPOINT PL	304 SS / 0.120"	350420
14(13)	40	D4515-3	c	U HARDPOINT PL	304 SS / 0.120"	350420
16(15)	40	D4148-1	c	CROSSTUBE LUG	304 SS / 0.120"	350420

This is to certify that the whole of the supplies detailed hereon has been inspected, tested, packed, and unless otherwise stated, conform in all respects with the requirements of the contract or order.

Name: Derek Loebsack

Title: President

Sign:

Dated:

05-01-14



# THYSSENKRUPP MATERIALS NA

## Certificate of Mill Test Results

PO/Re

We certify that this is a true copy of the report furnished by the producer of the metal, or data resulting from tests made in approved lab.

Signed by:

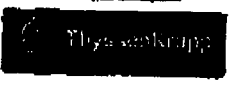
BL PEC-000000-000

Pg 1/1

PART NO.

Attn: RICK

1846

 <b>ThyssenKrupp Stainless USA</b>		<b>INSPECTION CERTIFICATE</b> CERTIFICADO DE INSPECCION ABWANTHEPROCEZURENS according to / de acuerdo con French EN 10204-3.1		Inspection number / P n de inspeccion / <b>0000032224 /</b> Page / Page / Seite <b>1 / 1</b>	
1 ThyssenKrupp Drive, P.O. Box 13000, Canal, AL 36513-1300 <b>OLBERT METALS SALES LIMITED</b> 585 DERRY ROAD EAST SUITE 305 MISSISSAUGA ON L4T 2J8 CANADA			Customer/Client / Cliente / Destinatario <b>OLBERT METALS SALES LIMITED, MISSISSAUGA</b> Customer's city / ciudad / P n de Ciudad / Destinatario <b>TO-1846</b> Manufacturer's registration no. / N p de Fabrica / Registro / Registracion <b>001147789 / 001</b> Delivery date no. / N p de entrega / Entrega / Entrega <b>000003222 / 010</b> Product / Producto / Producto <b>SHEETPILES/ALACH</b> Steel grade and quality / Acero / Grado y calidad / Acero y calidad <b>TYPE 304 L/304</b>		
Type of delivery / Condiciones de entrega / Condiciones de entrega <b>ASTM A409/A409M, ASME SA-240 SA-240M Part A E4.2010</b> <b>ASTM A409/A409M, ASME SA-409 SA-409M Part A E4.2010</b>			Customer's request no. / N p de solicitud / N p de solicitud / Customer's request no. / N p de solicitud / N p de solicitud		
Product description / Descripcion del producto / Descripcion del producto		Product weight / Peso del producto / Peso del producto		Product length / Longitud del producto / Longitud del producto	
3.05 mm x 1,219.28 mm x 2,438.40 mm 0.1250 inch x 48.0000 inch x 96.0000 inch		ADD		64 x 28	
Product No. / N p de producto / N p de producto	Heat No. / N p de horno / N p de horno	Weight / Peso / Peso	Length / Longitud / Longitud	Width / Ancho / Ancho	Thickness / Espesor / Espesor
00510115 00618112	32 32	4,800 lb / 2,218 kg 4,806 lb / 2,219 kg	713000 713000	590420 590420	100008830 100008830
Heat / Horno / Horno 04		Weight / Peso / Peso 8,776 lb / 4,034 kg			
Product / Producto / Producto		Chemical composition / Composicion quimica / Composicion quimica			
304A20 USA		% C % Si % Mn % P % S % Cr % Ni % N 0.025 0.30 1.66 0.027 0.0018 18.05 8.00 0.080			
Delivery condition / Condicion de entrega / Condicion de entrega		TRANSMERGE			
Delivery lot / Lote de entrega / Lote de entrega		Yield strength / Resistencia a la traccion / Resistencia a la traccion	TS Yield strength / Resistencia a la traccion / Resistencia a la traccion	El. A1* % El. A1* %	HRB HRB HRB
100008830 100008832		43,600 / 302 43,945 / 305	83,113 / 642 85,113 / 642	96.9 96.1	42 42
Declaration of conformity / Declaracion de conformidad / Declaracion de conformidad Test of tensile strength completed / Corrosion resistance test completed / Tensile strength test completed OK OK					
No weld repairs No intentional addition of Mercury compounds were made or used Free of radioactive contamination EU RoHS Directive 2002/95/EC Compliant Country of Heat no per ISO 2566-1					
Originator of the document / Originador del documento / Originador del documento <b>ThyssenKrupp Stainless USA, LLC</b> An ISO 9001:2008 certified company		The information provided is a true copy of data on file / La informacion provista es una copia verdadera de los datos en el archivo / La informacion provista es una copia verdadera de los datos en el archivo		Date of issuance / Fecha de emision / Fecha de emision <b>12/22/2012</b>	
Certificate is issued in accordance with the requirements of the standard / El certificado es emitido de acuerdo con los requisitos del estandar / El certificado es emitido de acuerdo con los requisitos del estandar		Andrew Polanco Phone: +1 281 828 3422		Date of report / Fecha de informe / Fecha de informe <b>12/22/2012</b>	